AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS

1. (previously presented) A vaporizer for vaporizing an atomized, antimicrobial liquid, to form an antimicrobial vapor, the vaporizer comprising:

a source of electromagnetic radiation;

a heating chamber having a passage formed therethrough, said heating chamber having an inlet for receiving the atomized antimicrobial liquid into the passage, and an outlet for releasing the antimicrobial vapor from the passage to supply the antimicrobial vapor to a defined region, wherein said heating chamber is comprised of a first electrically non-conductive material and a first electromagnetically responsive material; and

an insert located within the passage of the heating chamber, said insert comprised of at least one of:

(1) a metal, and

(2) a second electrically non-conductive material and a second electromagnetically responsive material,

wherein said heating chamber and said insert both contribute to vaporization of the atomized, antimicrobial liquid to form the antimicrobial vapor.

2. (currently amended) A vaporizer as defined by claim 1, wherein at least one of said first and second electrically non-conductive material is selected from the group consisting of: a polymer, a ceramic and a glass.

3. (original) A vaporizer as defined by claim 2, wherein said polymer is selected from the group consisting of: a thermoplastic polymer and a thermosetting polymer.

4. (currently amended) A vaporizer as defined by claim 3, wherein said thermoplastic polymer is selected from the group consisting of:

polyphthalamide, polyimide, Fluoropolymers, PTFE, 4.6 polyamide, 4.6 Nylon, polyamide-imide, polyarylethcrketone, polyetheretherketone

~~a nylon; Amodel® (PPI, polyphthalamide); Aurum® (polyimide); Ryton®/Fortron® (PPS, polybenylenesulphide); Fluoropolymers (PFA, FEP, Tefzel® ETFE, Halar® ECTFE, Kynar® PVDF); Teflon® PTFE; Stanyl® (4.6 polyamide, 4.6 Nylon); Torlon® (polyamide-imide); Ultem® (polyetherimide, PEI); and Victrex® PEEK (polyaryletherketone, polyetheretherketone).~~

5. (original) A vaporizer as defined by claim 3, wherein said thermosetting polymer is selected from the group consisting of: an epoxy and a urethane.

6. (original) A vaporizer as defined by claim 2, wherein said ceramic is a metal-oxide material.

7. (original) A vaporizer as defined by claim 6, wherein said ceramic is selected from the group consisting of: silica, alumina, and magnesia.

8. (previously presented) A vaporizer as defined in claim 1, wherein said first and second electromagnetically responsive material is selected from the group consisting of: a metal, a metal alloy, a metal coated material, carbon, graphite, stainless steel, a metal alloy solder, a ferromagnetic material, a ferrimagnetic material, a ferroelectric material, a ferrielectric material, and combinations thereof.

9. (original) A vaporizer as defined in claim 8, wherein said metal is selected from the group consisting of: nickel, copper, zinc, silver, stainless steel, tungsten, nichrome, and combinations thereof.

10. (previously presented) A vaporizer as defined in claim 1, wherein at least one of said first and second electromagnetically responsive material is a ferromagnetic material.

11. (previously presented) A vaporizer as defined in claim 1, wherein at least one of said first and second electromagnetically responsive material is a ferrimagnetic material.

12. (previously presented) A vaporizer as defined in claim 1, wherein at least one of said first and second electromagnetically responsive material is a ferroelectric material.

13. (previously presented) A vaporizer as defined in claim 1, wherein at least one of said first and second electrically non-conductive material forms an electrically non-conductive matrix, at least one of said first and second electromagnetically responsive material is embedded within the electrically non-conductive matrix.

14. (previously presented) A vaporizer as defined by claim 13, wherein at least one of said first and second electromagnetically responsive material is in the form of a particulate selected from the group consisting of: fibers, flakes, spheres, whiskers, grains, a coated particulate and combinations thereof.

15. (currently amended) A vaporizer as defined in claim 1, wherein at least one of:

said first electromagnetically responsive material forms a layer on a surface of said first electrically non-conductive material, and

said second electromagnetically responsive material forms a layer on a surface of said second electrically non-conductive material.

16. (currently amended) A vaporizer as defined in claim 15, wherein at least one of:

said first electromagnetically responsive material is embedded in said first electrically non-conductive material, and

said second electromagnetically responsive material is embedded in said second electrically non-conductive material.

17. (currently amended) A vaporizer as defined in claim 15, wherein at least one of:

said first electromagnetically responsive material is deposited on said first electrically

non-conductive material by at least one of: thermal spraying, electrodeposition, autocatalytic deposition, and arc spraying, and

said second electromagnetically responsive material is deposited on said second electrically non-conductive material by at least one of: thermal spraying, electrodeposition, autocatalytic deposition, and arc spraying.

18. (currently amended) A vaporizer as defined in claim 1, wherein at least one of:

said first electrically non-conductive material forms a first layer to provide a first protective coating, said protective coating isolating said first electromagnetically responsive material from an antimicrobial fluid, and

said second electrically non-conductive material forms a second layer to provide a protective coating, said second protective coating isolating said second electromagnetically responsive material from an antimicrobial fluid.

19. (currently amended) A vaporizer as defined in claim 18, wherein at least one of:

said first electromagnetically responsive material is embedded in ~~an~~ said first electrically non-conductive material, and

said second electromagnetically responsive material is embedded in said second electrically non-conductive material.

20. (currently amended) A vaporizer as defined in claim 18, wherein at least one of:

said first electromagnetically responsive material is deposited to form said first layer by at least one of: thermal spraying, electrodeposition, autocatalytic deposition, and arc spraying, and

said second electromagnetically responsive material is deposited to form said second layer by at least one of: thermal spraying, electrodeposition, autocatalytic deposition, and arc spraying.

21. (currently amended) A vaporizer as defined in claim 1, wherein said source of electromagnetic radiation is a microwave generator, said microwave generator generating

microwaves that cause heating of at least one of said first electromagnetically responsive material and said second electromagnetically responsive material.

22. (currently amended) A vaporizer as defined in claim 21, wherein at least one of: said first electromagnetically responsive material and said second electromagnetically responsive material is selected from the group consisting of: a ferromagnetic material, a ferrimagnetic material, a ferroclectric material and a ferrielectric material.

23. (original) A vaporizer as defined in claim 1, wherein said source of electromagnetic radiation produces an alternating current.

24. (currently amended) A vaporizer as defined in claim 23, wherein said alternating current has at least a first frequency and a second frequency, wherein said electromagnetic radiation penetrates said heating ~~apparatus~~ chamber at respective first and second depths.

25. (currently amended) A vaporizer according to claim 1, wherein said heating ~~apparatus~~ chamber includes:

a generally cylindrical tube~~, and~~

~~a screw-shaped insert dimensioned to be received within said generally cylindrical tube, said screw-shaped insert including a spiral passageway,~~

~~wherein at least one of said generally cylindrical tube and said screw-shaped insert are comprised of said electrically non conductive material and said electromagnetically responsive material~~.

Claim 26 (canceled).

27. (new) A vaporizer according to claim 1, wherein said insert is a screw-shaped insert, said passage following a spiral path through said screw-shaped insert.